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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,424	09/15/2005	Osamu Funahashi	MAT-8741US	9472

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EXAMINER	
ELBIN, JESSE A	

ART UNIT	PAPER NUMBER
2615	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/549,424	FUNAHASHI, OSAMU	
	Examiner	Art Unit	
	JESSE A. ELBIN	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☒ Claim(s) *4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 July 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. Claims 1-3 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, and 3-4 of copending Application No. 10/549771 ('771) in view of Kiyotaka et al. (JP 08-1002993 ('993) (already of record)) in view of Kuze et al. (US PGPub 2002/0051558 ('558) (already of record)). While the claims of the two applications are not identical, the differences were not found to be patentably distinct in view of the prior art of record. See art rejections below.

This is a provisional obviousness-type double patenting rejection.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 8 March, 2004. It is noted, however, that applicant has not filed a certified copy of the 2004-063525 application as required by 35 U.S.C. 119(b).

Response to Amendment

3. The amendment of 15 July 2008 has been entered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funahashi et al. (US PGPub 2003/0185415 ('415) (already of record)) in view of Kiyotaka et al. (JP 08-102993 ('993) (already of record)), further in view of Kuze et al. (US PGPub 2002/0051558 ('558) (already of record)).

Regarding claim 1, Funahashi teaches a speaker (loudspeaker; '415 Title) comprising: a frame ('415 #19); a magnetic circuit ('415 #9); a voice coil unit ('415 #15 and [0042] line 1) disposed slidably with respect to a magnetic gap ('415 #14) provided in the magnetic circuit ('415 #19); a diaphragm ('415 #17) coupled to the voice coil unit ('415 #15) directly or indirectly ('415 [0043] lines 2-3) at its inner peripheral part (circumferential end part; '415 [0043] lines 1-3 and Fig. 7) and to the frame ('415 #19) at its outer circumferential end part via a first edge ('415 #18 and [0044] lines 1-2); and a suspension holder ('415 #20) coupled to a rear surface of the diaphragm ('415 Fig. 7) and coupled to the frame ('415 #19) at its one end via a second edge ('415 [0044] lines 9-12).

Funahashi does not teach the magnetic circuit being disposed inside the frame; or an edge diameter in a cross section of the second edge is set to be larger than an edge diameter in a cross section of the first edge.

In the same field of endeavor, Kiyotaka teaches an edge diameter in a cross section of the second edge ('993 Fig. 1 #2b) is set to be larger than an edge diameter in

a cross section of the first edge ('993 Fig. 1 at #10) for the benefit of adjusting the damping characteristics according to design requirements.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the first or second edge as taught by Funahashi with the varied diameters as taught by Kiyotaka for the benefit of adjusting the damping characteristics according to design requirements.

Neither Funahashi, nor Kiyotaka explicitly teach the magnetic circuit being disposed inside the frame.

In the same field of endeavor, Kuze teaches the magnetic circuit ('558 Fig. 1 ##6-9) being disposed inside the frame ('558 Fig. 1 #5) for the benefit of protecting the magnetic circuit.

It would have been obvious to one of ordinary skill in the art at the time of the invention to dispose the magnetic circuit within the frame as taught by Kuze in the speaker device taught by the combination of Funahashi and Kiyotaka, for the benefit of protecting the magnetic circuit.

Regarding claim 2, Funahashi, Kiyotaka, and Kuze remain as applied above.

Funahashi further teaches the first edge ('415 Fig. 12 #29) is protruded toward the magnetic circuit (allowed to bend downward; '415 Fig. 12 and [0060] lines 7-8) and the second edge ('415 Fig. 12 #30) is protruded toward the diaphragm (allowed to bend upward; '415 Fig. 12 and [0060] lines 8-9).

Regarding claim 3, Funahashi, Kiyotaka, and Kuze remain as applied above.

Funahashi further teaches the first edge ('415 Fig. 1 #18) is protruded toward an opposite side of the magnetic circuit (allowed to bend upward; '415 Fig. 1 and [0045] lines 1-2) and the second edge ('415 Fig. 1 #21) is protruded toward the magnetic circuit (allowed to bend downward; '415 Fig. 1 and [0045] lines 2-3).

Allowable Subject Matter

6. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the limitation in claim 4 ("ratio of the edge diameter of the second edge to the edge diameter of the first edge is in a range of greater than 1.0 and less than or equal to 1.5") is not anticipated or made obvious to the prior art of record. The range of said ratio is supported in the specification and figures as adding a benefit over the prior art, and therefore was not found to be obvious over the prior art of record, which simply taught a difference in the diameter (rather than a specific ratio between the diameters).

Response to Arguments

8. Applicant's arguments, see page 7, "Funahashi Reference", filed 15 July 2008, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of Kuze et al. (US PGPub 2002/0051558 ('558) (already of record)) previously cited as being pertinent to applicant's disclosure. Details of the new grounds of rejection can be seen in the art rejection above.

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "numerical reference 2b is a damper, which does not improve compliance but instead increases the strength of the Kiyotaka structure") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claims do not cite that the "suspension holder coupled to a rear surface of the diaphragm, and coupled to the frame at its one end via a second edge" is to improve compliance. Further, no suspension holder of record is capable of improving compliance; rather suspension holders all inherently dampen the vibration of the diaphragm, including the suspension holder of the instant application. Harmonic distortion is reduced in the instant application through specific tuning of the mechanical filter (damping) created by, among other things, the two edge portions.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE A. ELBIN whose telephone number is (571)270-3710. The examiner can normally be reached on Monday through Friday, 8:00am to 5:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Suhan Ni can be reached on (571) 272-7505. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. E./
Examiner, Art Unit 2615
/Suhan Ni/
Primary Examiner, Art Unit 2614